Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Amended) A stroke-multiplying shape memory alloy (SMA) actuator comprising at least three rigid parallel elongate members, each having a long axis and being slideable relative to one another parallel to that long axis, each connected one to another by an SMA wire such that the stroke of the actuator is substantially equal to the sum of the stroke of the SMA wires, where at least the central portion of the SMA wires are in close proximity to a heat sink and a recess formed in the heat sink separates the ends of at least one SMA wire from the heat sink.

2. (Original) The actuator of claim 1 where the elongate members are parallel plates.

3. (Original) The actuator of claim 2 where the elongate members are stacked parallel conductive plates electrically insulated one from another.

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4. (Original) The actuator of claim 3 where each two plates are separated by a layer of polymeric material.

5. (Original) The actuator of claim 4 where the plates comprise a top plate, a bottom plate, and at least one intermediate plate, each plate having first and second ends and the first ends of all plates being aligned generally one above another and the second ends of all plates being aligned generally one above another, a first SMA wire having a first end connecting adjacent the first end of the bottom plate and a second end connecting adjacent the second end of the intermediate plate immediately thereabove, a second SMA wire having a first end connecting adjacent the first end of an intermediate plate immediately below the top plate and a second end connecting adjacent the second end of the top plate, and there is more than one intermediate plate present, an SMA wire having a first end connecting adjacent the first end of each intermediate plate and a second end adjacent the second end of the intermediate plate immediately thereabove.

6. (Original) The actuator of claim 1 where the distance between the central portion of each SMA wire and the heat sink is not more that 10 times a diameter of the wire.

7. (Original) The actuator of claim 6 where the distance between the central portion of each SMA wire and the heat sink is not more than 8 times the diameter of the wire.

8. (Original) The actuator of claim 7 where the distance between the central portion of each SMA wire and the heat sink is between 1 and 4 times the diameter of the wire.

9. (Original) The actuator of claim 1 where at least the central 20% of each SMA wire is in close proximity to the heat sink.

10. (Original) The actuator of claim 9 where at least the central 40% of each SMA wire is in close proximity to the heat sink.

11. (Original) The actuator of claim 10 where at least the central 70% of each SMA wire is in close proximity to the heat sink.

12. (Original) The actuator of claim 1 where at least the end 1 mm of each end of each SMA wire is not in close proximity to the heat sink.

13. (Original) The actuator of claim 11 where at least the end 1.5 mm of each end of each SMA wire is not in close proximity to the heat sink.

14. (Original) The actuator of claim 1 where the heat sink comprises the rigid members of the actuator.

15. (Original) The actuator of claim 4 where the heat sink comprises the parallel conductive plates of the actuator.

16. (Original) The actuator of claim 15 where each plate has an edge parallel to the long axis nearest an SMA wire attached to the plate adjacent an end of the plate, the edge being such that at least the central 60% of each wire is in close proximity to the edge and having a recess therein adjacent a point of attachment of the wire to the plate so that the wire is not in close proximity to the edge for at least the first 1 mm of the wire from the point of attachment to the plate.

17. (Original) The actuator of claim 1 where the heat sink is external to the actuator.

18. (Original) The actuator of claim 17 where the heat sink is an active cooling element.

19. (Original) The actuator of claim 1 having a desired contraction limit and a power supply circuit supplying power to the actuator to cause it to contract, the power supply circuit comprising a switch that is normally closed when the actuator is contracted to less than the desired contraction limit and is opened by the actuator reaching the desired contraction limit.

20. Cancelled.

21. (Previously Added) A stroke multiplying actuator shape memory actuator of claim 1 wherein at least one of the rigid elongate members operates as a heat sink.

22. (Previously Added) A shape memory alloy actuator comprising:

a rigid planar elongate member having a recess formed therein; and

a shape memory alloy wire having a first end, a central portion and a second end;

wherein, the first end of the shape memory alloy wire is attached to the rigid planar elongate member proximate to the recess.

23. (Previously Added) The shape memory alloy actuator of claim 22 wherein the rigid planar elongate member operates as a heat sink for the shape memory alloy wire.

24. (Previously Added) The shape memory alloy actuator of claim 22 wherein the rigid planar elongate member has a recess formed at each end.

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25. (Previously Added) The shape memory alloy actuator of claim 22 further comprising

a second rigid planar elongate member having a recess formed therein and the second rigid elongate member being slideable relative to the rigid elongate member;

wherein, the second end of the shape memory alloy wire is attached to the second rigid planar elongate member proximate to the recess formed in the second rigid planar elongate member.

26. (Previously Added) The shape memory alloy actuator of claim 25 wherein the central portion of the shape memory alloy wire is in close proximity to one of the rigid planar elongate member and the second rigid planar elongate member.

27. (Previously Added) A sliding plane shape memory alloy actuator comprising:

a rigid member having a recess formed therein; and

a shape memory alloy wire attached to the rigid member;

wherein, a first heat transfer mechanism dominates the heat transfer between the central portion of the shape memory alloy wire and the rigid member; and

a second different heat transfer mechanism dominates the heat transfer between the portion of the rigid member having the recess formed therein and the portion of the shape memory alloy wire proximate to the portion of the rigid member having a recess formed therein.

28. (Previously Added) The sliding plane shape memory alloy actuator of claim 27 wherein the first heat transfer mechanism comprises the heat sink effect of the rigid member.

29. (Previously Added) The sliding plane shape memory alloy actuator of claim 27 wherein the proximity of the central portion of the shape memory alloy wire to the rigid member alters the effectiveness of the first heat transfer mechanism.

30. (Previously Added) The sliding plane shape memory alloy actuator of claim 27 wherein the second heat transfer mechanism is dominated by thermal conduction where the shape memory alloy wire is attached to the rigid member.

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31. (Previously Added) The sliding plane shape memory alloy actuator of claim 28 wherein the second heat transfer mechanism is dominated by thermal conduction where the shape memory alloy wire is attached to the rigid member.

32. (Previously Added) The sliding plane shape memory alloy actuator of claim 27 wherein the shape memory alloy wire thermal gradient is modified by adjusting the relative contributions of the first heat transfer mechanism and the second different heat transfer mechanism.

33. (Previously Added) A sliding plane shape memory alloy actuator comprising:

a rigid member having a recess formed therein; and

a shape memory alloy wire having two ends and a central portion between the two ends and one end of the shape memory alloy wire is attached to the rigid member;

wherein, the heat transfer between the rigid member and the shape memory alloy wire is related to the spacing between the rigid member and the shape memory alloy wire and the shape memory alloy wire is spaced from the rigid member at a first spacing in the central portion of the shape memory alloy wire and the shape memory alloy wire is spaced from the rigid member at a second spacing at the ends of the shape memory alloy wire.

34. (Previously Added) The sliding plane actuator of claim 33 wherein the second spacing is greater than the first spacing.

35. (Previously Added) The sliding plane actuator of claim 33 wherein the second spacing is related to the distance between the shape memory alloy wire and the recess formed in the rigid member.

36. (Previously Added) The sliding plane actuator of claim 33 wherein the second spacing is proximate to the attachment point between the shape memory alloy wire and the rigid member.